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OCCUPATIONAL  
SAFETY & HEALTH  
SERVICE

## MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

Product Code: 59009

Page: 1

PRODUCT NAME: PERCHLOROETHYLENE INDUSTRIAL

Effective Date: 04/10/85 Date Printed: 01/31/86

MSDS:000190

### 1. INGREDIENTS:

Tetrachloroethylene

CAS# 000127-18-4 99.9%

### 2. PHYSICAL DATA:

BOILING POINT: 250F (121.1C)

VAP PRESS: 13 mmHg @ 20C

VAP DENSITY: 5.76

SOL. IN WATER: 0.015 g/100g 25C

SP. GRAVITY: 1.619 @ 25/25C

APPEARANCE: Colorless liquid.

ODOR: Not available.

### 3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None

METHOD USED: TOC, TCC, COC

FLAMMABLE LIMITS

LFL: None

UFL: None

EXTINGUISHING MEDIA: Non-flammable material.

FIRE & EXPLOSION HAZARDS: No autoignition temperature.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure self-contained respiratory equipment.

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## 4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID)   Avoid open flames, welding arcs, or other high temperature sources which induce thermal decomposition.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)   Strong acids and oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS:   Involvement in fire forms hydrogen chloride and small amounts of phosgene and chlorine.

HAZARDOUS POLYMERIZATION:   Will not occur.

## 5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS:   Small leaks - mop up, wipe up, or soak up immediately. Remove to out of doors.  
Large spills - evacuate area. Contain liquid; transfer to closed metal containers. Keep out of water supply.

DISPOSAL METHOD:   When disposing of the unused contents, the preferred options are to send to licensed reclaimer, or to permitted incinerators, in compliance with local, state, and federal regulations including Subtitle C of The Resource Conservation and Recovery Act. Dumping into sewers, on the ground, or into any body of water is strongly discouraged, and may be illegal. Consult The Dow Chemical Company for further information.

## 6. HEALTH HAZARD DATA:

EYE:   May cause pain, and slight transient irritation. Vapors may irritate the eyes at about 100 ppm.

SKIN CONTACT:   Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause some skin irritation, even a burn. Repeated contact may cause drying or flaking of skin.

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## 6. HEALTH HAZARD DATA: (CONTINUED)

SKIN ABSORPTION: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for skin absorption in rabbits is >10,000 mg/kg.

INGESTION: Single dose oral toxicity is low. The LD50 for rats is >5000 mg/kg. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

INHALATION: Dizziness may occur at 200 ppm; progressively higher levels may also cause nasal irritation, nausea, incoordination, drunkenness; and over 1000 ppm, unconsciousness and death. A single brief (minutes) inhalation exposure to levels above 6000 ppm may be immediately dangerous to life. In confined or poorly ventilated areas vapors can readily accumulate and can cause unconsciousness and death. Alcohol consumed before or after exposure may increase adverse effects.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause anesthetic or narcotic effects, central nervous system effects, and liver and/or kidney effects. The preponderance of information indicates perchloroethylene is not likely to be a carcinogen in man although one lifetime study with toxic doses of perchloroethylene given by stomach tube indicated a carcinogenic response in laboratory mice, but not in rats exposed by ingestion or inhalation. Birth defects are unlikely. Although in laboratory animals other adverse effects were observed in the mother and fetus at exaggerated doses, exposures having no effect on the mother should have no effect on the fetus. Results of in vitro ("test tube") mutagenicity tests have been negative.

## 7. FIRST AID:

EYES: Irrigate immediately with water for at least 5 minutes.

SKIN: Wash off in flowing water or shower. Wash contaminated clothing before reuse.

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## 7. FIRST AID: (CONTINUED)

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs unless absolutely necessary. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Perchloroethylene: ACGIH TLV is 50 ppm (stel is 200 ppm); OSHA PEL is 100 ppm.

VENTILATION: Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In confined or poorly ventilated areas, use an approved positive pressure self-contained breathing apparatus.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Remove

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## 8. HANDLING PRECAUTIONS: (CONTINUED)

contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Where contact with liquid is likely, chemical goggles are recommended because eye contact with this material may cause pain, even though it is unlikely to cause injury.

## 9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Handle with reasonable care and caution. Avoid breathing vapors. Vapors of this product are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter these areas where vapors of this product are suspected unless special breathing apparatus is used and an observer is present for assistance.

MSDS STATUS: Revised 1, 6, 7, and 8.

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